Time: 3 Hrs   MM:50

I) **The Question paper contains 40 multiple choice questions with four choices and student will have to pick the correct one (each carrying ½ mark).**

1.   ....is a collection of programs used to run the system;
   (a)   Application software   (b)   System software
   (c)   Testing software   (d)   None of the above   ( )

2.   Software engineering is practised through:
   (a)   SSAD and OOSAD   (b)   OOP's and SSAD
   (c)   SAD and SSD   (d)   OOP's and OOSAD   ( )

3.   Spiral model consists of ....phase
   (a)   Two   (b)   Three
   (c)   Four   (d)   Six   ( )

4.   The RAD model stands for:
   (a)   Rapid Application Development
   (b)   Role Action Development
   (c)   Rapid and Direct
   (d)   Resource Action Development   ( )

5.   Which one is not manufactured?
   (a)   Hardware   (b)   Software
   (c)   Central Processing unit   (d)   Mouse   ( )

6.   Which software development model takes more development time?
   (a)   Prototype model   (b)   Waterfall model
   (c)   Incremental model   (d)   Spiral model   ( )

7.   Which one is not the software development phase?
   (a)   Design phase   (b)   Analysis phase
   (c)   Evolution phase   (d)   Implementation phase   ( )

8. FORTRAN means:
    (a) For transaction   (b) Formula translation
    (c) Formal translation   (d) Foreign translation   ( )

9. Which is not an element of software matrices domain:
    (a) Productivity   (b) Quality
    (c) Availability   (d) Human   ( )

10. Which one is not a quality factor (in meaning quality)?
    (a) Corrections   (b) Usability
    (c) Integrity   (d) Maintenance   ( )

11. Prototyping falls under which phase of software engineering?
    (a) Definition   (b) Coding
    (c) Testing   (d) Business   ( )

12. ....feasibility involves a study of functions, performance and constrains that
    may   affect the ability to achieve an acceptable system
    (a) Economic   (b) Technical
    (c) Legal   (d) Business   ( )

13. Architecture Flow Diagrams (AFDs) are drawn in which part of software   engineering?
    (a) Testing   (b) Designing
    (c) Specification   (d) Maintenance   ( )
14. Various terms related to object oriented design are:
    (a) Object & Classes
    (b) Abstraction & Inheritance
    (c) Both a and b
    (d) None of the above   ( )

15. Fundamental approach to identify the test cases are:
    (a) Functional testing   (b) Structural Testing
    (c) Both a and b   (d) None of the above   ( )

16. Behavrioual testing is also known as:
    (a) White Box Testing   (b) Glass Box Testing
    (c) Structural Testing   (d) Black Box Testing   ( )

17. Verification means:
    (a) Are we building the product right
    (b) Are we building the right product
    (c) Both a and b

(d)   None of the above   ( )

18.   Validation means:
       (a)   Are we building the right product
       (b)   Are we building the product right
       (c)   Both a and b
       (d)   None of the above   ( )

19.   A   software   development   using   C   programming   language   should
       incorporate................designing methodologies:
       (a)   Object oriented   (b)   Structured
       (c)   Procedural   (d)   Database   ( )

20.   Waterfall model is best suited for software with:
       (a)   Rigid requirement
       (b)   Flexible Requirement
       (c)   Changeable requirement
       (d)   Requirements are not well understood   ( )

21.   Which of the following are umbrella activities?
       (a)   Configuration Control   (b)   Planning
       (c)   (a) and (b) both   (d)   None of the above   ( )

22.   What is true about ISO 9000 Ceertification and SEI CMM?
       (a)   SEI CMM is developed for all kinds of roganization while ISO 9000 is
       specifically developed for software industry
       (b)   SEI CMM and ISO 9000 was originally developed to assist US department of
       defense
       (c)   SEI CMM address the needs or internal improvement of an organization
       quality while ISO 9000 is a certificate
       (d)   All of the above   ( )

23.   Software project planning involves estimation attempt to determine:
       (a)   How much money and effort
       (b)   How much resources and time
       (c)   Both a and b
       (d)   None of the above   ( )

24.   COCOMO stands for:
       (a)   Constructive cost model
       (b)   Cumulative cost model
       (c)   Comparative cost model
       (d)   None of the above   ( )

25. Which approach is not suggested by Putnam and myers for sizing problems:
    (a) Fuzzy logic sizing
    (b) Function point sizing
    (c) Sizing of project deliverables
    (d) Standard component sizing   ( )

26. SDD stand for:
    (a) Software dependent document
    (b) Software design document
    (c) Software Diagram Document
    (d) None of the above   ( )

27. For a good software:
    (a) Coupling should be low, cohesion should be high
    (b) Cohesion should be low, coupling should high
    (c) Both should be low
    (d) Depends on kind of software   ( )
28. Readability in coding can be increase by:
    (a) Avoiding goto statement
    (b) Avoiding nested if statement
    (c) Name variables and function according to their use
    (d) All of the above   ( )

29. Estimation of resources is must in project planning. The statement is :
    (a) True   (b) False
    (c) Not Necessary   (d) None   ( )

30. Estimation of resources in project covers the estimation for:
    (a) Human Resource
    (b) Reusable software Resources
    (c) Hardware/Software
    (d) All of the above   ( )

31. Which is not the decomposition technique?
    (a) Software sizing   (b) Feasibility
    (c) Process based estimation   (d) FP based estimation   ( )

32. COCOMO- II is hierarchy of estimation models that address towards:
    (a) Application composition model
    (b) Early design stage model
    (c) Post architecture stage model
    (d) All of the above   ( )

33. PERT is:
    (a) Prototyping tool   (b) RE-engineering tool

(c)   Change management tool   (d)   Planning tool   ( )

34.   Verification generally deals in testing whether:
      (a)   The product is according to customer's desire
      (b)   The product is rightly designed
      (c)   The product is rightly developed as was designed
      (d)   The product is useful   ( )

35.   Unit testing mostly deals in:
      (a)   Modular testing   (b)   Procedural testing
      (c)   Architectural testing   (d)   None of the above   ( )

36.   The relative functional strength of a module depends upon:
      (a)   CISCO   (b)   Coupling and cohesion
      (c)   Cohesion   (d)   Expendability   ( )

37.   'CASE' stands for:
      (a)   Computer Accessibility and Software Environment
      (b)   Computer Aided Software Environment
      (c)   Computer Aided Software Engineering
      (d)   Computer Aided system Engineering   ( )
38.   Data flow diagram is used in:
      (a)   Architectural design
      (b)   Interface design
      (c)   Both a and b
      (d)   None of the above   ( )

39.   Entity relationship is used in:
      (a)   Data design
      (b)   Architectural design
      (c)   Interface design
      (d)   None of the above   ( )

40.   Knowledge discovery in Databases is also known as:
      (a)   Data Modeling   (b)   Data Warehouse
      (c)   Both a and b   (d)   Data Structure   ( )

II) Attempt any four descriptive types of questions out of the six. All questions carry 7½ marks each.

Q.1   What are the issues in the design of the software? Explain it's need for the software engineering?

Q.2   Explain spiral model in detail with advantage and disadvantages in detail.

Q.3   What are various activities during software project planning? describe any two software size estimation techniques.

Q4   Write short notes on:
       (i)   Software Requirement Specification
       (ii)   COCOMO model;
       (iii)   E-R Diagram
       (iv)   Fourth Generation Techniques
       (v)   Data Dictionary;

Q5   What is software project planning. Write a note on the approaches suggest by Putnam and Myers to the sizing problem.

Q6   What are the objectives of testing? Write down the testing principles. Write a note on white box testing.